CV-401V

PC/HD to Video Scan Converter

Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	07/04/11	Preliminary Release
VS1	11/10/12	Updated format/diagrams

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1. INTRODUCTION

The PC/HD to Video Scan Converter is designed to down-scale PC/Component source to analog CVBS (NTSC,PAL) signal. Ideal for businesses with multiple CCTV cameras, this device takes your high-resolution camera footage and scales it to lower resolutions.

Supporting PC resolutions up to WUXGA@60 Hz, this scaler can also connect new video sources to older displays. The device has many great features such as 3D noise reduction, frame rate conversion, adaptive contrast enhancement and many more. It also has a simple on-screen display (OSD) menu that allows the user to access the display status including input/output information.

2. APPLICATIONS

- Security camera display
- Display PC signal to non-VGA CRT TV or monitor
- Display PC signal to non-VGA LCD TV or monitor

3. PACKAGE CONTENTS

- PC/HD to Video Scan Converter
- Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

Input source equipment such as a PC/Component (RGBHV/YPbPr) camera with D-Sub 15-pin or Component adaptor cable and output display (TV or monitor) with CVBS input port and cable.

5. FEATURES

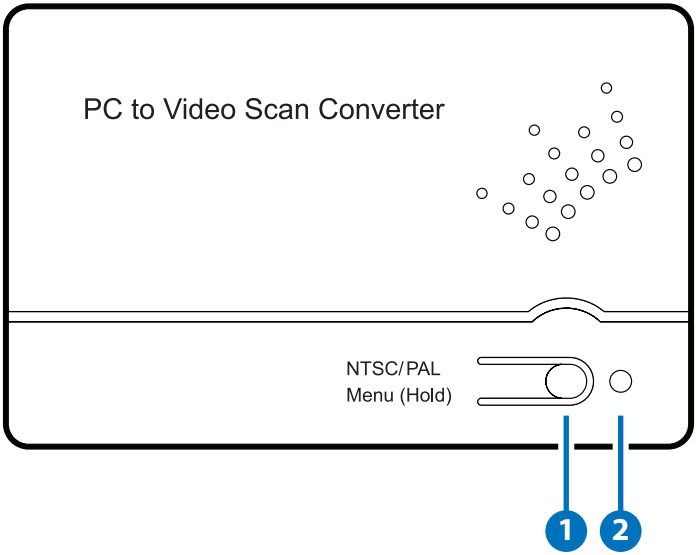
- Converts the video signal from PC/Component source to NTSC or PAL signal
- Accepts a wide range of input resolutions of 480i to 1080p@60 Hz (Component) and VGA to WUXGA@60 Hz (PC)
- 3D noise reduction in both temporal and spatial domain
- Frame rate conversion
- Adaptive contrast enhancement
- OSD Display
- Overscan and underscan adjustment
- Phase and Aspect adjustment
- No software installation required
- Compact and elegant design

Note: The converter do NOT support the following conversion:

- *Interlace source signal conversion between 50/60 Hz*
- *480i and 1080i@60 to PAL frame rate conversion*
- *576i and 1080i@50 to NTSC frame rate conversion*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Top Panel



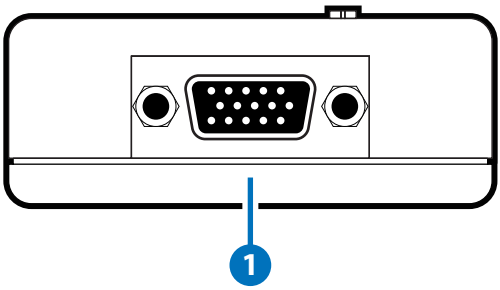
1. **NTSC/PAL MENU (Hold)**: Press this button to bring up the On-Screen Display (OSD) which will display the input timing and the output TV format information.

   When the OSD is displayed, press the button again to switch the output TV system from NTSC to PAL or from PAL to NTSC.

   Press and hold this button for 3 seconds the OSD will bring up the selection menu. Press it sequentially to select the required setting.

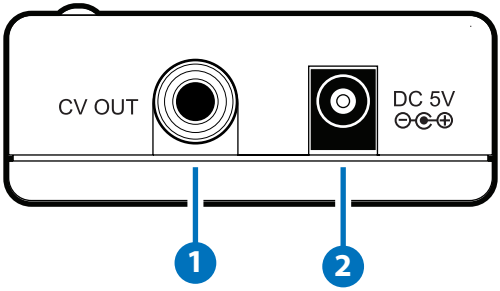
2. **POWER LED**: This LED will illuminate in RED when the unit is connected to the power supply.

6.2 Left Panel



1 **PC IN:** Connect to the source equipment such as a PC, laptop or digital camera with D-sub 15pin cable (VGA) or adaptor converter cable (Component).

6.3 Right Panel



1 **CV OUT:** Connect to the output display TV or monitor with RCA cable for display of the converted composite (CVBS) signal.

2 **DV5V:** Plug the 5V DC power supply included in the package into the unit and connect the adaptor to an AC wall outlet.

6.3 OSD Menu

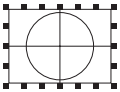
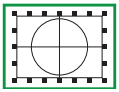
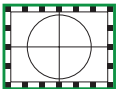
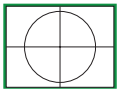
IN	640×480 (Input Timing)
OUT	NTSC (Output TV System)

Press the Menu button once to bring up the OSD and display the input (IN) and Output (OUT) information.

NTSC	
PAL	
Underscan 1	
Underscan 2	
Overscan	
Phase Adj.	0~31
Aspect Adj.	Full Screen
	Lette (RB)ox
	Pan & Scan
	Auto TV 4:3
	Auto TV 16:9

Press and hold the MENU button for 3 seconds to bring up the OSD then press it repeatedly to move the OSD cursor to the desired selection. Once the selection is made, if the MENU button is not pressed for a few seconds, the OSD will disappear and the display will output following the selected parameters.

Below is the example of the scan selection result.

				
Source	TV	Underscan1	Underscan2	Overscan

Phase Adjustment: Range is from 0~31 and can be used to compensate for blurry image quality and/or character jiggle.

Aspect Adjustment: There are total of 5 different aspect ratio adjustments: Full Screen, Lette (RB)ox, Pan & Scan and Auto TV 4:3 & Auto TV 16:9.

Full Screen: To allow the image to fill the screen of the TV.

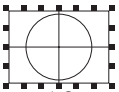
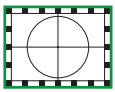
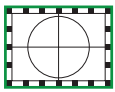
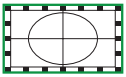
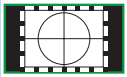
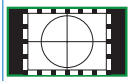
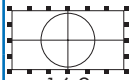
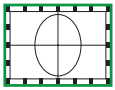
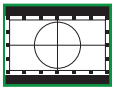
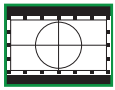
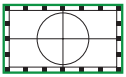
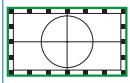
Lette (RB) ox: To fit a 16:9 formatted video signal on a 4:3 display. Horizontal Black bars will be displayed above and below the image

Pan & Scan: To fit a 4:3 formatted video signal on a 16:9 display. Vertical black bars will be displayed at both sides of the the image.

Auto TV 4:3: The device will detect the input source aspect ratio of 4:3 or 16:9 and make the automatically make the adjustment to 4:3.

Auto TV 16:9: The device will detect the input source aspect ratio of 16:9 or 4:3 and automatically make the adjustment to 16:9.

Blow is the sample chart of the selection result:

Source TV	Aspect Adjust	Full Screen	Lette (RB) ox	Pan&Scan	Auto TV 4:3	Auto TV 16:9
 4:3	4:3			×		×
	16:9		×		×	
 16:9	4:3			×		×
	16:9		×	×	×	

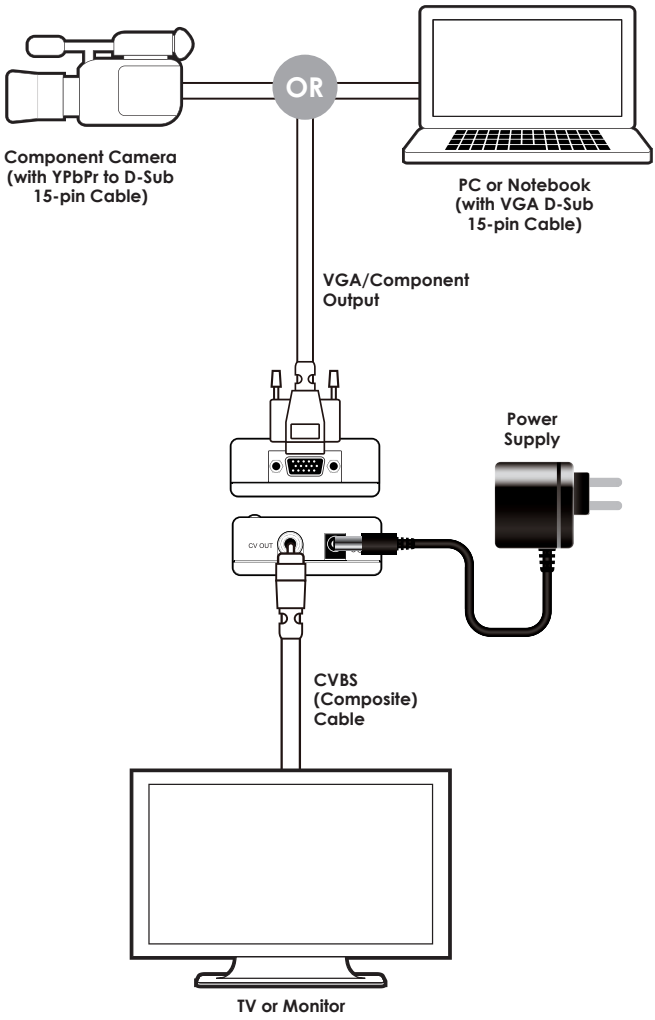
6.4 Supported Input Timing

HD Timing	480i	60
	480p	60
	576i	50
	576p	50
	720p	50/60
	1080i	50/60
	1080p	50/60
PC Timing	640×480	60/72/75/85
	720×400	70
	800×600	56/60/72/75/85
	1024×768	60/70/75/85
	1152×864	70/75/85
	1280×720	59/60
	1280×768	60/60 (RB)
	1280×800	60/60 (RB)
	1280×960	59/60
	1280×1024	59/60
	1366×768	60/60 (RB)
	1440×900	60/60 (RB)
	1600×1200	60
	1680×1050	60/60 (RB)
	1920×1080	59/60
	1920×1200	60 (RB)

Note:

1. *If the input resolution is not supported, the OSD will show 'IN Not Support'.*
2. *The converter do NOT support the following conversion:*
   - *Interlace source signal conversion between 50/60 Hz*
   - *480i and 1080i@60 to PAL frame rate conversion*
   - *576i and 1080i@50 to NTSC frame rate conversion*

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Input Port	1×VGA
Output Port	1×CVBS (Composite Video)
Output Video	NTSC/PAL
ESD Protection	Human body model: ±8 kV (air-gap discharge) ±6 kV (contact discharge)
Power Supply	5 V DC/1 A linear power adaptor (US/EU standards, CE/FCC/UL certified)
Dimensions	64 mm (W)×104 mm (D)×26 mm (H)
Weight	120 g
Chassis Material	Plastic
Silkscreen Color	White
Operating Temperature	0 °C~40 °C/32 °F~104 °F
Storage Temperature	−20 °C~60 °C/−4 °F~140 °F
Power Consumption	3 W
Relative Humidity	20~90% RH (non-condensing)

9. ACRONYMS

ACRONYM	COMPLETE TERM
CRT	Cathode Ray Tube
LCD	Liquid Crystal Display
NTSC	National Television System Committee
PAL	Phase Alternating Line
VGA	Video Graphics Array

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